

**Abstract**

An optical fiber preform is made by modifying a conventional preform tube having a cladding zone and a core zone, before its thermal collapse normally followed by fiber drawing. The modification is accomplished by depositing, e.g. by MCVD, a thin protective layer of a light-transmissive material, e.g. silica, on the inner surface of the preform tube, over the core zone, before the collapse step. The material of the protective layer has a higher viscosity than the material of the core zone. The protective layer is deposited over the inner (core) zone of the preform tube and its thickness and composition is selected to prevent excessive viscosity drop of the typically alumina-doped core zone during the collapse step. The provision of the protective, viscosity-controlling protective layer is helpful in maintaining good roundness of the collapsed preform tube.

TOP SECRET - 2025 RELEASE UNDER E.O. 14176